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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,793

09/20/2006

Colin John Ingham

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09/22/2009

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EXAMINER

TURK, NEIL N

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

09/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,793	Applicant(s) INGHAM, COLIN JOHN	
	Examiner NEIL TURK	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 21 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-17 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/20/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

This Office Action fully acknowledges Applicant's remarks filed on July 20th, 2009. Claims 1-17 and 21 are pending. Claims 1-10 have been withdrawn from consideration as being drawn to a non-elected invention.

Election/Restrictions

Applicant's election without traverse of Group II, claims 11-17, and 21, in the reply filed on July 20th, 2009 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 11-17 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Beuningen et al. (US 2007/0111325), hereafter Van Beuningen.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

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either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Van Beuningen discloses a solid porous support having first and second surfaces, wherein the support has a plurality of through-going channels (flow-through support) (abstract; [0028,0119]). Van Beuningen also discloses that a superposing mask may be superposed onto the support, and the mask may be part of the support, in which case the support is compartmentalized by a masking agent applied on the support. Van Beuningen discloses that an example of such a masking agent is a latex liquid masking film (polymeric material present as in cls. 11, 12, & 14) ([0042-0043]). Van Beuningen further discloses that the porous support may be in the form of metal oxide membranes, such as aluminum oxide ([0116-0121]). Van Beuningen further discloses a kit comprising the solid porous support for array analysis (abstract, [0147]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 11-13, 15-17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connor et al. (US 2005/0003521), hereafter O'Connor, in view of Arnold et al. (6,387,631), hereafter Arnold.

O'Connor discloses an addressable microarray device which includes a substrate (such as an aluminum oxide substrate; [0023]) with first side 14, second side 16 and array of microwells 18 extending from the first side to the second side (plurality of channels as claimed). O'Connor further discloses that the substrate has porous regions 20 formed therein (abstract; [0018-0020+]; fig. 1). O'Connor further discloses that the array of microwells can be fabricated by masking techniques, and discloses that a mask pattern can be applied to an area or surface of the substrate ([0027-0028+]). O'Connor further discloses providing a kit for array analysis comprising the support ([0019,0095-0097]).

With regard to claims 11 and 13, O'Connor discloses applying a masking material to the support and within the channels, but does not specifically disclose that the material is a polymeric material comprising an agent affecting the mask properties.

Arnold discloses polymer coated surfaces for microarray applications in which a support is treated with by silylating with an agent having the formula $H_2N-(CH_2)_n-SiX_3$, then activating with a cross-linking reagent, followed by reacting with an amine-containing polymer. Arnold discloses that the support can be optionally reacted with a

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crosslinking reagent again. Arnold discloses that the modified support may then be used to make microarrays where a plurality of targets are stably associated with the support and arranged in a defined manner (abstract; lines 39-67, col. 2).

It would have been obvious to modify O'Connor to include a polymeric material comprising an agent affecting the mask properties such as taught by Arnold, such that both O'Connor and Arnold are concerned with microarray analysis and reliable immobilization of targets for reactions and assays, and providing such a mask as taught by Arnold provides the benefit of yielding a support which may be used to stably associate a plurality of targets and also allow such targets to be arranged in a defined manner on the support.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connor in view of Arnold as applied to claims 11-13, 15-17, and 21 above, and further in view of Cubicciotti (US 2002/0034757).

O'Connor/Arnold does not specifically disclose that the polymeric material is a latex polymer.

Cubicciotti discloses single-molecule selection methods for identifying target-binding molecules (abstract). Cubicciotti discloses that the attachment surfaces may be modified by covalent and noncovalent techniques, and discloses that coating with polymers, such as latex, provides to prepare or modify the attachment surface ([0530,0600]).

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It would have been obvious to modify O'Connor/Arnold to include the polymer as a latex polymer such as taught by Cubicciotti in order to provide a known polymer material that provides modify the attachment surface for desired immobilization of the elements, and also provides such an attachment surface in which the attachment areas would be well-defined and visible.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 11, 12, and 15-17 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 31 and 47-49 of copending Application No. 11/662,397. Although the claims are not identical, it would have been obvious to modify claim 31 of the 11/662,397 Application to

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utilize the conductive material in a polymeric form, such that conductive polymers are well-known and such choice of material is within the scope of the claim. Well-known conductive polymers include poly(acetylene)s, poly(pyrrole)s, poly(thiophene)s, polyanilines, polythiophenes, poly(p-phenylene sulfide), and poly(para-phenylene vinylene)s, for example.

This is a provisional obviousness-type double patenting rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEIL TURK whose telephone number is (571)272-8914. The examiner can normally be reached on M-F, 9-630.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NT

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797